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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,046	11/24/2003	Michael A. Metcalf	2187.1-1	8313

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EXAMINER

WALLING, MEAGAN S

ART UNIT PAPER NUMBER

2863

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,046

Applicant(s)

METCALF ET AL.

Examiner

Meagan S Walling

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 3-20 and 23-40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/24/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Nabity et al. (US 5,777,892).

Regarding claim 1, Nabity et al. teaches a transmitter emitting at least one directional beam of an acoustical waveform (Ref. 32); at least one detector receiving echo signals for the waveform backscattered from the solids (Ref. 34); means for gathering measured intensity value of the echo signals (column 1, lines 28-32 and column 7, lines 13-14); means for measuring Doppler frequency shifts of the echo signals (column 2, line 63); and data processing equipment comprising means for translating the intensity values into concentration values of the solids (column 1, lines 28-32 and column 8, lines 57-59), and means for interpreting the frequency shifts into flow measurements of the solids (column 2, lines 52-55).

Regarding claim 2, Nabity et al. teaches that the flowing liquid is contained in a conduit having a direction flow (Ref. 31), and the transmitter (Ref. 32) and detector (Ref. 34) are located inside the conduit (see Fig. 2).

Regarding claim 21, Nabity et al. teaches emitting at least one directional beam of an acoustical waveform across the liquid (column 5, lines 20-23); detector receiving echo signals of the waveform backscattered from the solids (column 5, lines 23-26); gathering measured

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intensity value of the echo signals (column 1, lines 28-32 and column 7, lines 13-14); measuring Doppler frequency shifts of the echo signals (column 2, line 63); translating the intensity values into concentration values of the solids (column 1, lines 28-32 and column 8, lines 57-59); and interpreting the frequency shifts into flow measurements of the solids (column 2, lines 52-55).

Regarding claim 22, Nabity et al. teaches that the flowing liquid is contained in a conduit having a directional flow (Ref. 31), and the transmitter (Ref. 32) and detector (Ref. 34) are located inside the conduit (see Fig. 2).

Allowable Subject Matter

Claims 3-20 and 23-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of allowability of claims 3 and 23 is the inclusion of the limitation of the transmitter emitting at least a first pair of the beams from substantially the same location, a second beam in the pair being aimed downstream from a first beam and at a longitudinal angle from the first beam. It is this limitation in the claimed combination that has not been found, taught, or suggested that makes these claims allowable.

The primary reason for the indication of allowability of claims 5 and 25 is the inclusion of the limitation of generating samplings of the echo signals corresponding to discrete volumes of the liquid distributed along the beam. It is this limitation in the claimed combination that has not been found, taught, or suggested that makes these claims allowable.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S Walling whose telephone number is (571) 272-2283.

The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

.msw


John Barlow
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